INSTRUCTIONS FOR COMPLETING THE WATER CALCULATION WORKSHEET

1. **Determine demand of building in GPM.**
   Add up WSFU's (Tables 82.40- 1&2), convert to GPM, (Table 82.40-3).
   WSFU's _____ = GPM _____

2. **Determine difference in elevation from main or external pressure tank to building control valve.**
   Ask purveyor depth of main in street, or ask pump installer depth of pipe at connection to external pressure tank.

3. **Size of meter.** (if applicable)
   Ask purveyor meter size for GPM demand.

4. **Developed length from main or external pressure tank to building control valve.**
   Measure actual distance.

5. **Determine low pressure at main in street, or external pressure tank.**
   Ask purveyor the low pressure of water at address, or ask pump installer low pressure setting on switch.

6. **Low pressure at main in street, or external pressure tank.** (as determined at # 5 above)

7. **Determine pressure loss due to friction in the water service.**
   Refer to Graphs A-82.40(7)-2 thru 6.

8. **Determine the pressure loss due to the difference in elevation between the main or external pressure tank and the building control valve.**
   Measure difference in height (ft) from the main or external pressure tank to the building control valve. Multiply height (ft) by .434.

9. **Available pressure after the building control valve.**
   (enter in line "B")

B. Available pressure after the building control valve.
(from line "9")

C. Determine pressure loss of water meter.
(Refer to Graph A-82.40(7)-1 or to loss curve from manufacturer.

D. Pressure at controlling fixture.
This is the pressure required for a fixture to perform as designed.
Compare;
(1) required fixture pressure,
(2) elevation of fixture,
(3) developed length to fixture.

E. Determine difference in elevation between the building control valve and the controlling fixture.
Measure difference in height (ft) from the building control valve to the controlling fixture.
Multiply height (ft) by .434.

F. Determine pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture.
This is determined by pressure loss curves based upon the GPM flow through the equipment or device. This pressure loss only applies when serving the controlling fixture.

G. Developed length from the building control valve to the controlling fixture.
This is the measured length (ft) of pipe between the building control valve and the controlling fixture.
Multiply the length (ft) by 1.5.

Calculating the pressure available for uniform loss (value of "A").

Value of "B" _____

Subtract value of "C" _____

subtotal _____

Subtract value of "D" _____

subtotal _____

Subtract value of "E" _____

subtotal _____

Subtract value of "F" _____

subtotal _____

Divide by value of "G" _____

subtotal _____

Multiply by __100____

"A" = _____

"A" = pressure available for uniform loss. This number is only an indicator for using the pipe sizing Tables 82.40-4 thru 82.40-9.
(this number is not actual pressure)